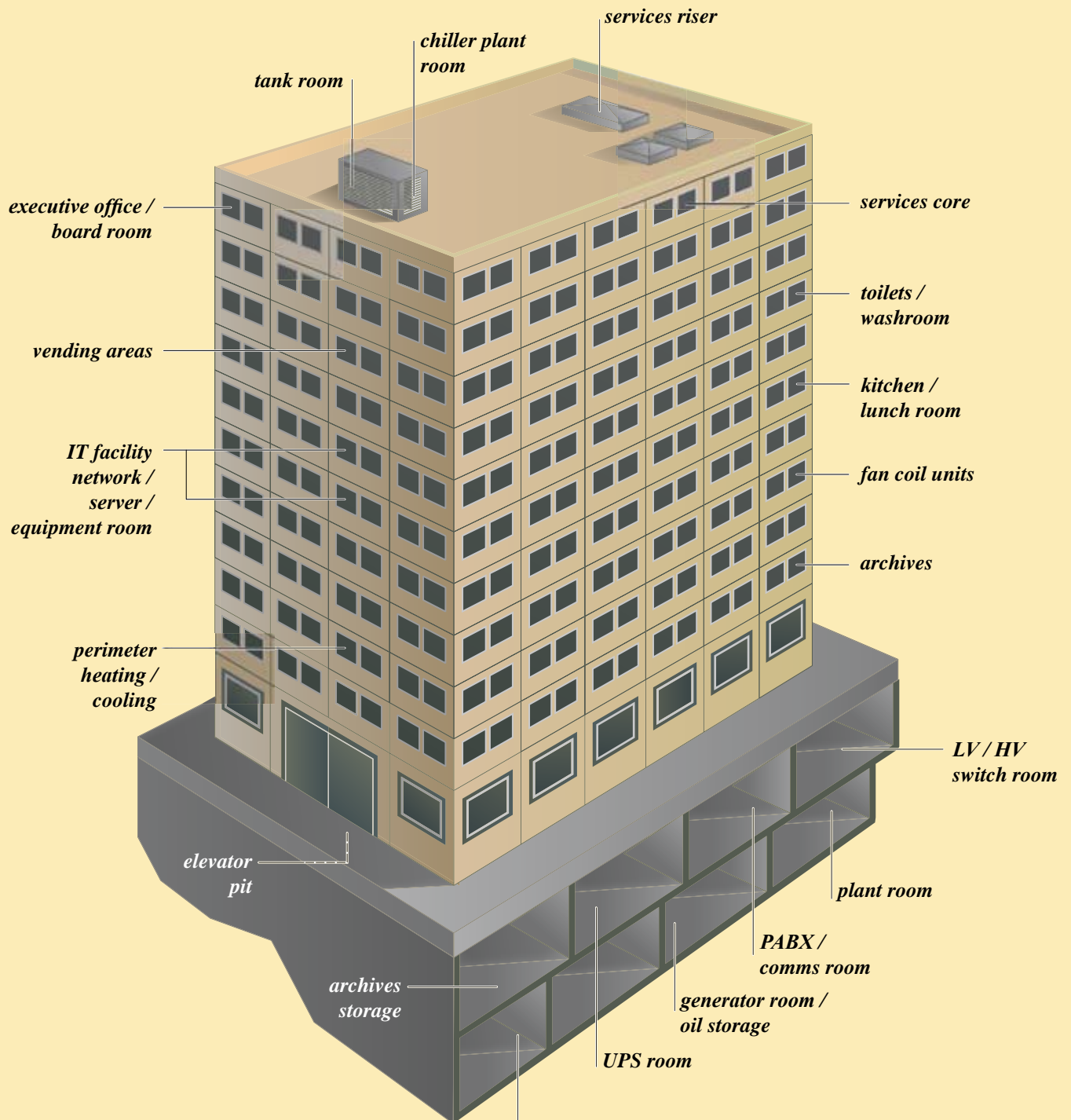


Leak Detection and Location Systems



FIND LEAKS BEFORE THEY FIND YOU



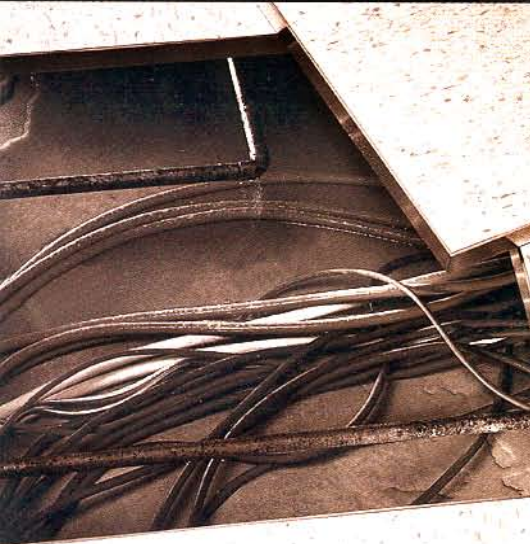


DON'T TAKE THE RISK



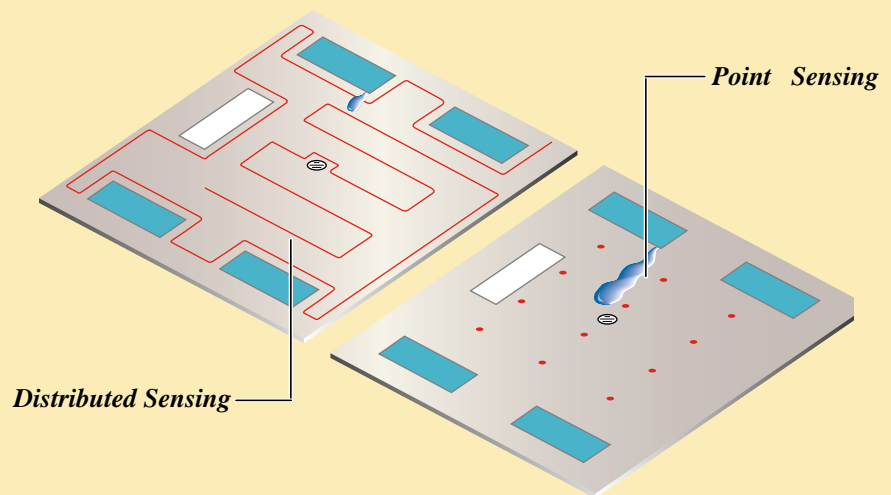
Even small leaks – in the wrong places – cause downtime, disruption, and costly damage. And the aftermath ties up resources in clean-up and repair. Why suffer these costs when reliable, *distributed* leak detection is available? TraceTek technology lets you detect leaks at their source – even pinpoint their location – so you can stop damage before it starts.

Thousands of facilities throughout the world rely on TraceTek leak detection systems to protect data and telecommunications centers, commercial buildings of all kinds, libraries and archives, and museums.



DISTRIBUTED VS. POINT SENSING

With the point sensing approach to leak detection, liquid must reach the location of a probe to trigger an alarm. Depending on the circumstances, a leak may grow or spread considerably before it reaches an individual probe. With distributed sensing, liquid is detected if it makes contact anywhere along the length of sensing cable that monitors an entire area. Routing the cable near likely sources of leaks and spills ensures early detection. A locating module even displays the distance to the leak, enabling quick and effective response.



A TraceTek locating system detects the leak at its source, signals the alarm, and displays the exact distance to the leak. By referring to a map of the system layout (supplied as part of the TraceTek system), you can quickly locate the leak source.



**TraceTek
TTDM**

CH01 OFFICE WING
SIM NORMAL
10:57 29 AUG 01

UNDETECTED LEAKS – EVEN SMALL ONES – CAN BE DEVASTATING

PROBLEM AREAS:

- Heating/cooling water supply and return piping
- Condensate drains
- Fire sprinkler systems
- Toilets, drains, and related plumbing
- Basements
- Backflow preventors
- Roofs
- Coffee and vending machines
- Overhead pipe runs and trays

POTENTIAL CONSEQUENCES:

- Business disruption
- Service interruption and network outages
- Loss of telephone service
- Liability for damage to tenant's equipment
- Damage to furnishings
- Cleanup costs

APPLICATION AREA:

- Raised floor computer facility
- ISP/co-location facilities
- Fiber optic switch sites
- Racked equipment
- Control rooms
- Trading rooms
- Archival storage
- Executive offices
- PBX rooms, room server equipment rooms
- Museums, historic buildings

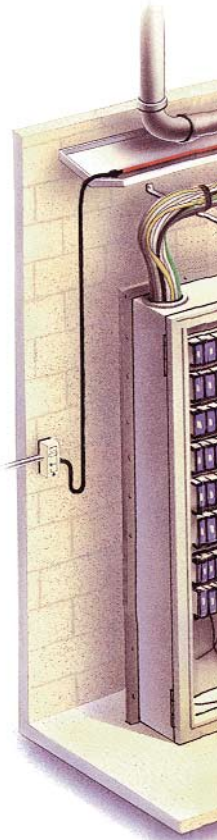
What happens if the plumbing above a building's network equipment springs a leak? Or a bathroom sink next to an order processing center backs up? The amount of business disruption that's possible is staggering — particularly if the leak goes unnoticed for any length of time.

CATCH IT EARLY, STOP IT FAST

As soon as even a little water touches the sensor cable, the TraceTek system triggers an alarm. Because TraceTek cable senses water along its entire length — not just certain isolated points — you can rely on early detection.



In office environments the TraceTek system helps avoid costly damage and disruption that can result from leaks.



FLEXIBLE TO FIT ANY APPLICATION

The design flexibility of the TraceTek system allows you to select the monitoring approach and layout you need — no matter how simple or complex your requirements. And the TraceTek system is easily integrated into a building management system.

NO DOWNTIME

TraceTek water sensing cable is designed to dry almost instantly, making it easy to quickly get the system up and running again after an alarm. As soon as moisture is cleared away from the cable, you can restore the system to operation.





HVAC equipment

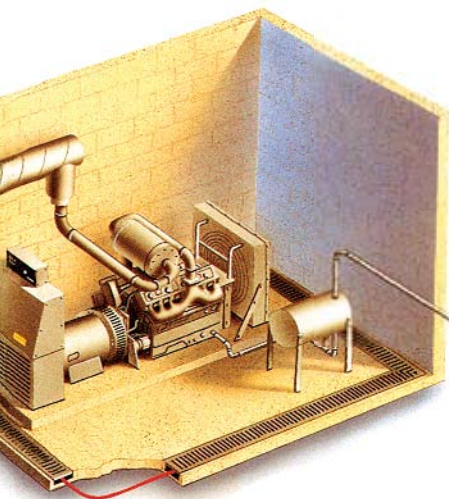
TraceTek cable monitors water-heated or cooled ventilation equipment. If a leak is detected, the system automatically shuts off a supply valve — to prevent costly damage to office equipment.



Telephone switch gear

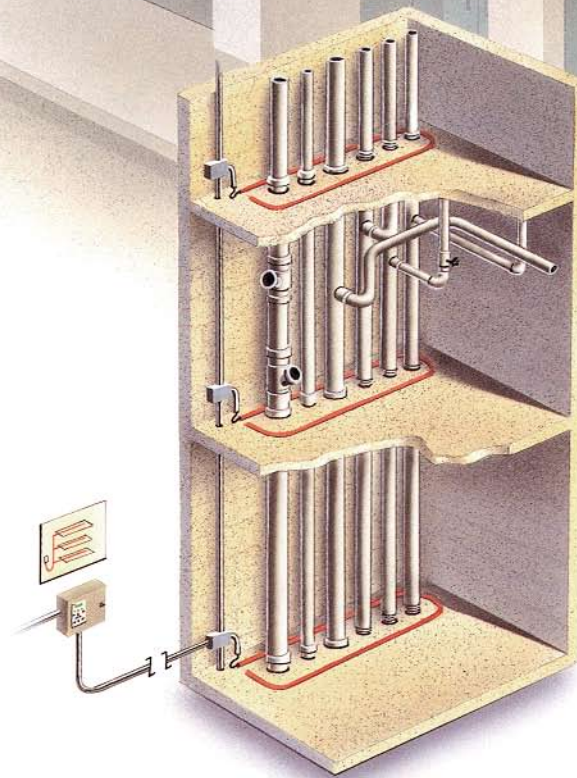
TraceTek sensing cable monitors overhead piping to guard sensitive telecommunications hardware.

The TraceTek module can instantly relay an alarm to your building management system or alarm panel.



Mechanical or electrical equipment areas

TraceTek systems provide 24-hour leak detection on unmonitored basement and equipment floors. TraceTek fuel-sensing cable is available for backup diesel generators and other fueling applications.



Building service columns

Leaks in vertical service columns often propagate to several floors. TraceTek systems offer layout flexibility to handle widely distributed areas with branches or zones. Sensing cable on each floor provides early and quick detection — and the alarm and locating module pinpoints the location.

DOWNTIME SPELLS DISASTER

PROBLEM AREAS:

- Chilled water piping
- Air conditioning units
- Overhead piping
- Cracks in substructure
- Roofs
- Toilets, drains, and related plumbing

POTENTIAL CONSEQUENCES:

- Downtime
- Cleanup costs and disruption
- Loss of telephone network service
- Equipment damage

If you design or manage a computer network, a multi-tenant server facility, or telecommunications facility, you know the importance of keeping systems continually on-line. Service reliability is a key element of your value proposition. To avoid downtime and disruption, consider installing a system that



Placed in the sub-floor of a computer room, the TraceTek system protects your computer equipment by detecting a leak early – and even locating its source.

can find a leak at its source, when it occurs – and can pinpoint its location.

LOCATE THE LEAK – FAST

For hidden or unmonitored areas, the TraceTek system not only provides early detection, but also a digital readout of the distance to the leak.

The TraceTek system map (supplied as part of a TraceTek locating system) leads you to the leak, so you can locate the source, solve the problem, and keep your equipment up and running.

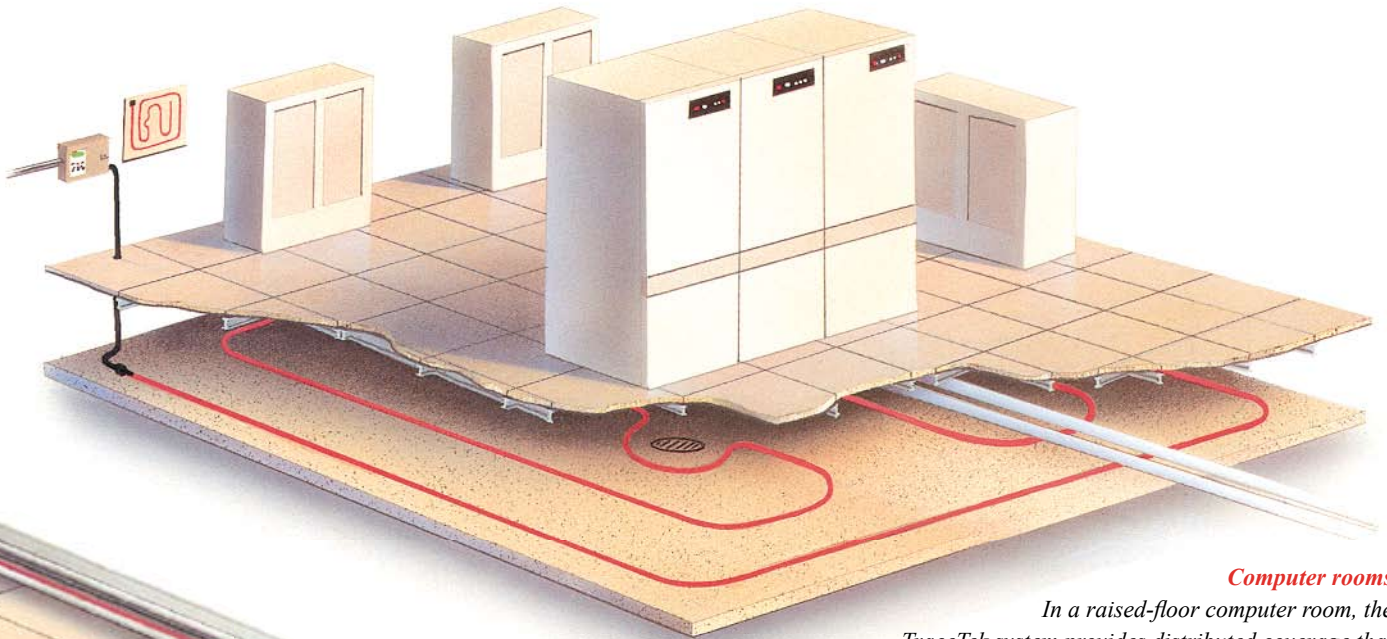
MODULAR NETWORK, DISTRIBUTED SENSING

As modern data and network facilities have grown in complexity, the TraceTek system has added design and integration flexibility. Single TraceTek alarm panels can now monitor up to 32 individual circuits or inexpensive Sensor Interface Modules can provide leak detection data directly to Building Management Systems.



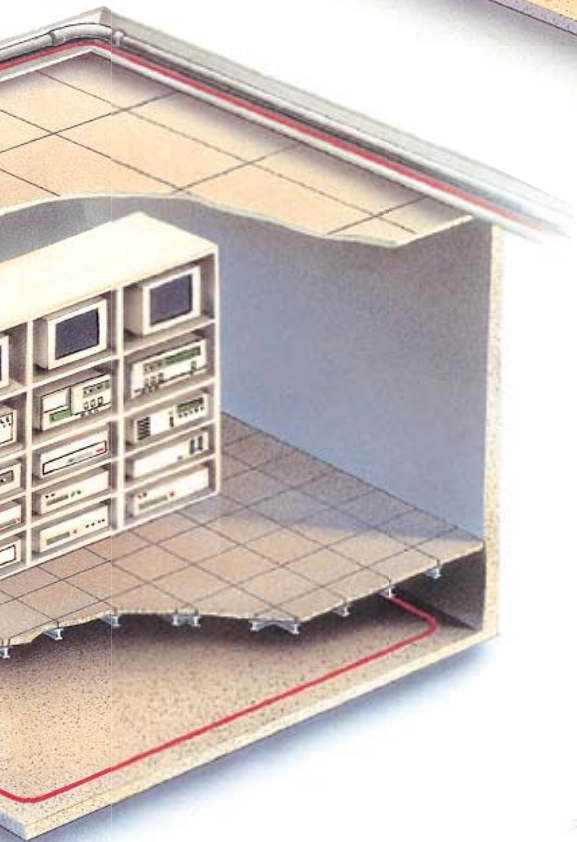
Network equipment

Network servers and routers are sometimes housed in rooms not specifically designed for their protection. TraceTek cable can be installed to monitor hazards wherever they occur. For example, cable is placed at the perimeter of subfloors and in trays below overhead piping.



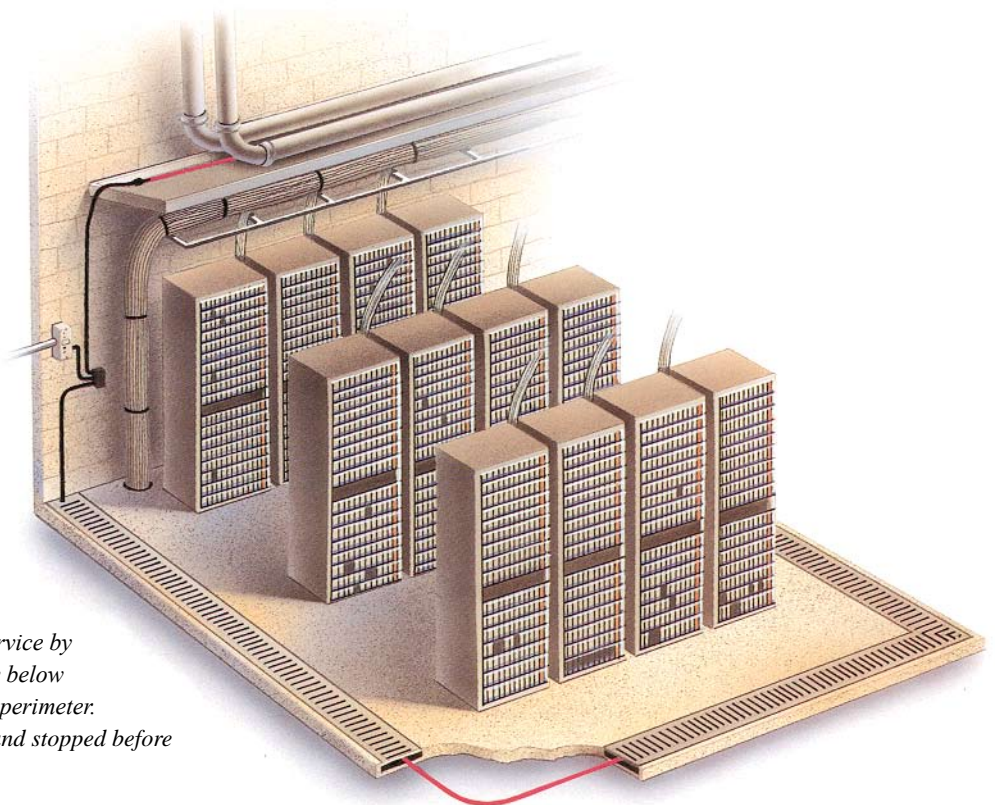
Computer rooms

In a raised-floor computer room, the TraceTek system provides distributed coverage that finds a leak before it becomes a problem. Cable is laid out at the perimeter of a room, near drains, water piping, and air conditioning.



Telephone equipment rooms

The TraceTek system protects you from loss of telephone service by providing monitoring directly below water piping and at a room's perimeter. Leaks can be detected early and stopped before disruption occurs.



ONE LEAK CAN RUIN YOUR COLLECTION

PROBLEM AREAS:

- Aged water supply piping
- Basements
- Fire sprinkler systems
- Janitorial maintenance areas
- Heating and cooling water, supply and return
- Toilets, drains, and related plumbing

POTENTIAL CONSEQUENCES:

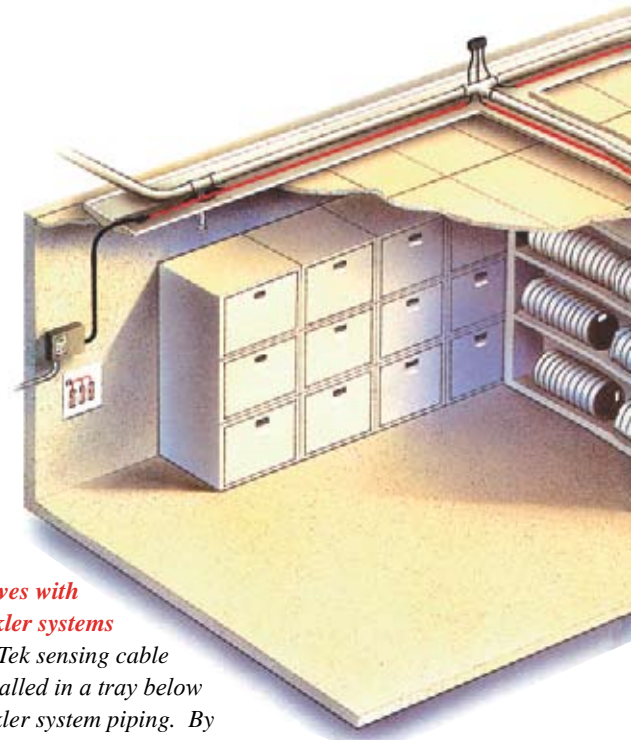
- Loss of irreplaceables:
 - artwork
 - historic archives
 - business records
- Costs of restoration
- Facility closures

In a museum, archive, library, or storage setting, any undetected leak is truly a disaster. Sources include roof leaks, basement seepage, and – in most buildings – a disconcerting variety of plumbing: overhead sprinklers, water supply piping, even bathrooms and water fountains. The flexibility of the TraceTek system allows you to design the monitoring and cable layout required – no matter



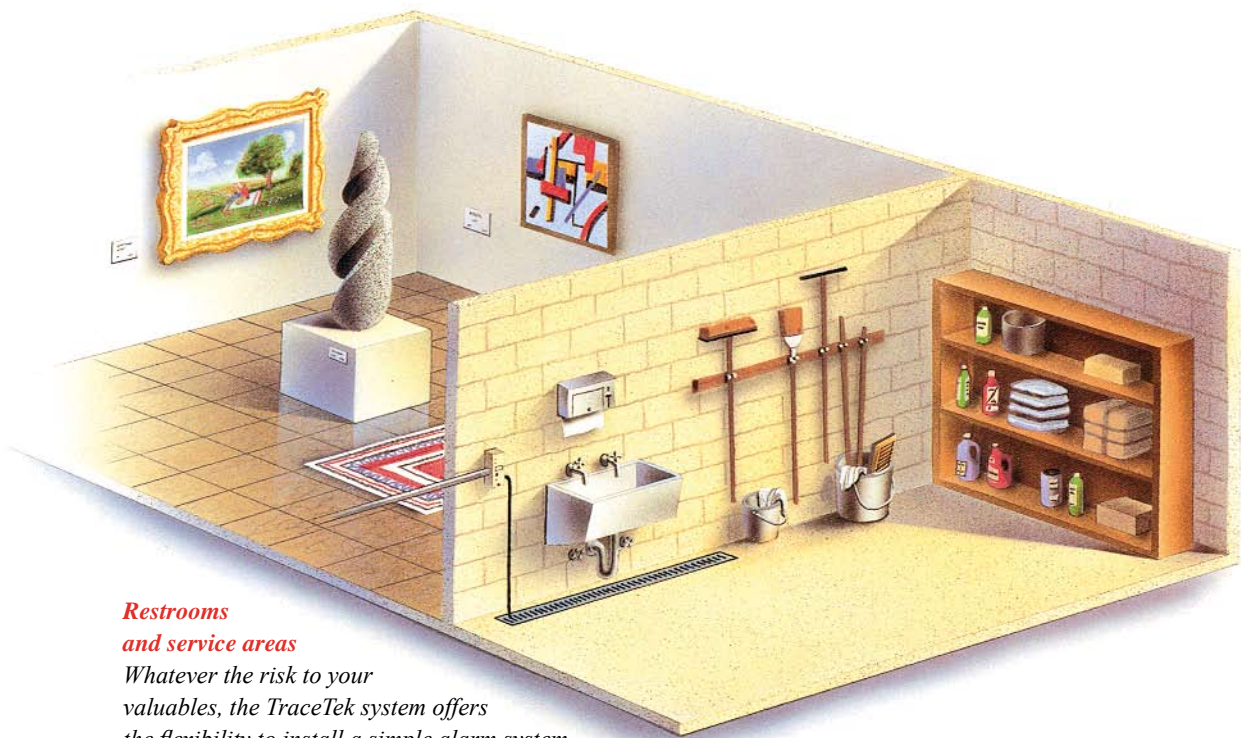
In areas where irreplaceable valuables are stored, the TraceTek system provides continuous monitoring and leak detection.

how simple or complex. You can install sensing circuits ranging from 3 feet to 5,000 feet. Whether you require a simple alarm system for a single room or a multiple circuit sensor network for a large facility, there is a TraceTek system to fit your needs.



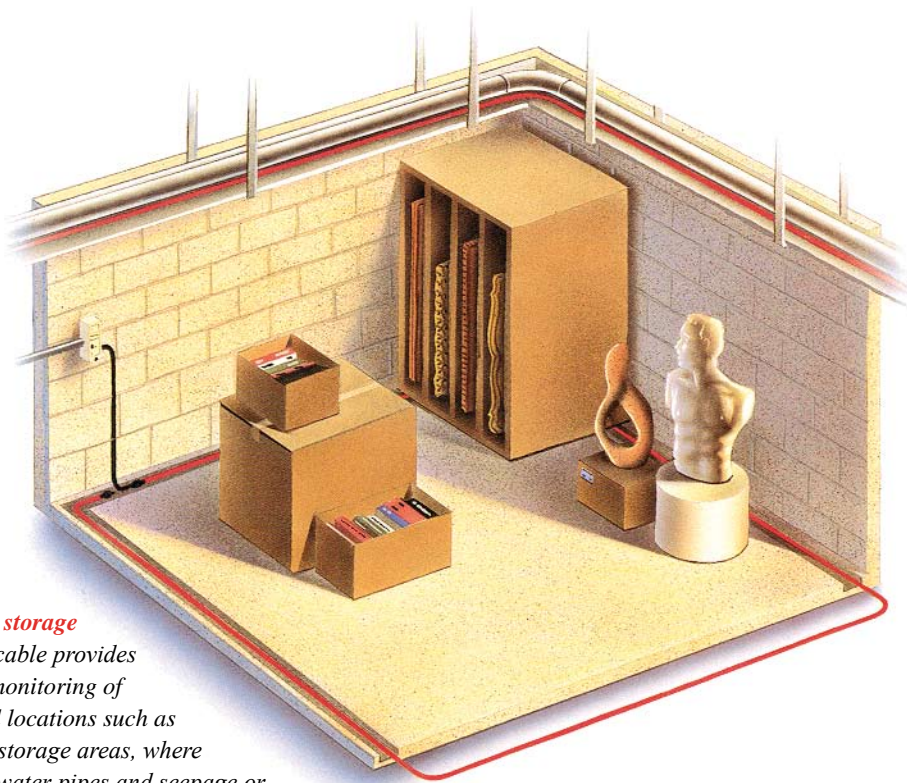
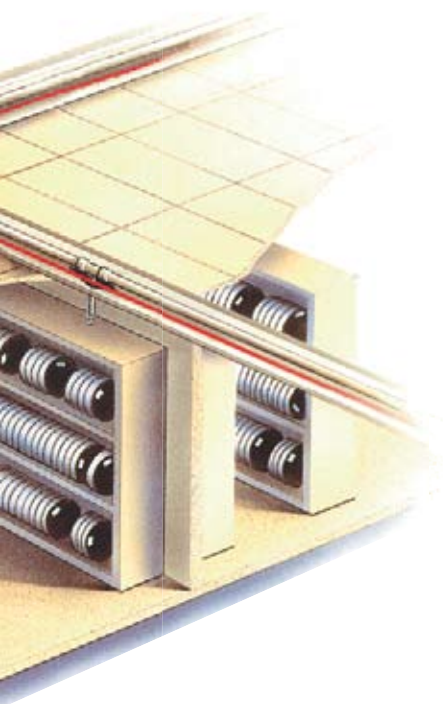
Archives with sprinkler systems

TraceTek sensing cable is installed in a tray below sprinkler system piping. By directly monitoring the sprinkler system and water supply piping, leaks are detected early, before they can do a lot of damage.



**Restrooms
and service areas**

Whatever the risk to your valuables, the TraceTek system offers the flexibility to install a simple alarm system or a complex, multibranch locating system.



Basement storage

TraceTek cable provides constant monitoring of unmanned locations such as basement storage areas, where overhead water pipes and seepage or flooding present risks. Early warning can help prevent disaster.

Unique sensing cable

- **Distributed sensing:** by sensing liquid along its **entire** length, TraceTek cable makes it possible to detect leaks at their source
- **Durable construction:** small but rugged cable is extremely resistant to corrosion and abrasion
- **Dries and clears quickly:** cable construction leaves virtually no place to trap moisture

Simple and sure detection circuit – that can also locate

- **Continual check of system integrity:**
TraceTek cable uses a four-wire construction. Monitoring the two circuit loops provides a continual and positive verification of system integrity.
- **Simple and sure detection:** liquid creates a circuit between the sensing wires to trigger an alarm – no moving parts, no calibration.
- **Accurate location:** a TraceTek locating system pinpoints (0.1% precision) where liquid contacts the sensing cable. The locating module measures the current and the voltage drop in the second sensing loop and simply applies Ohm's law ($R=V/I$)
- **Clear indication:** LEDs clearly indicate system status – monitoring, leak, or fault.

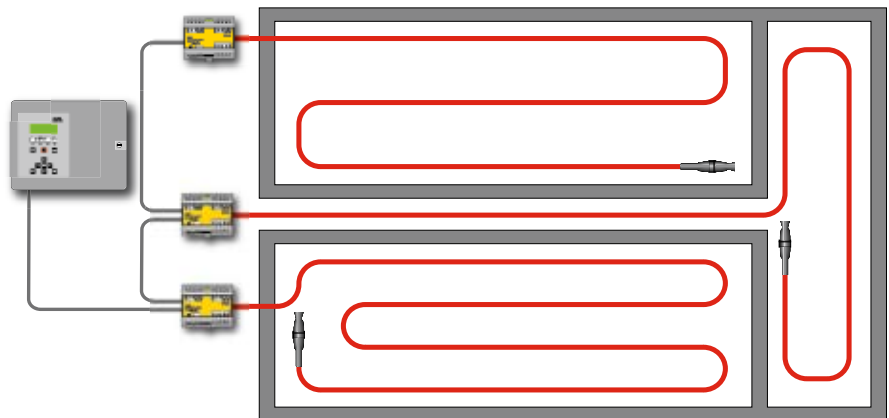
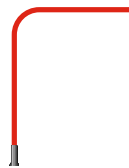
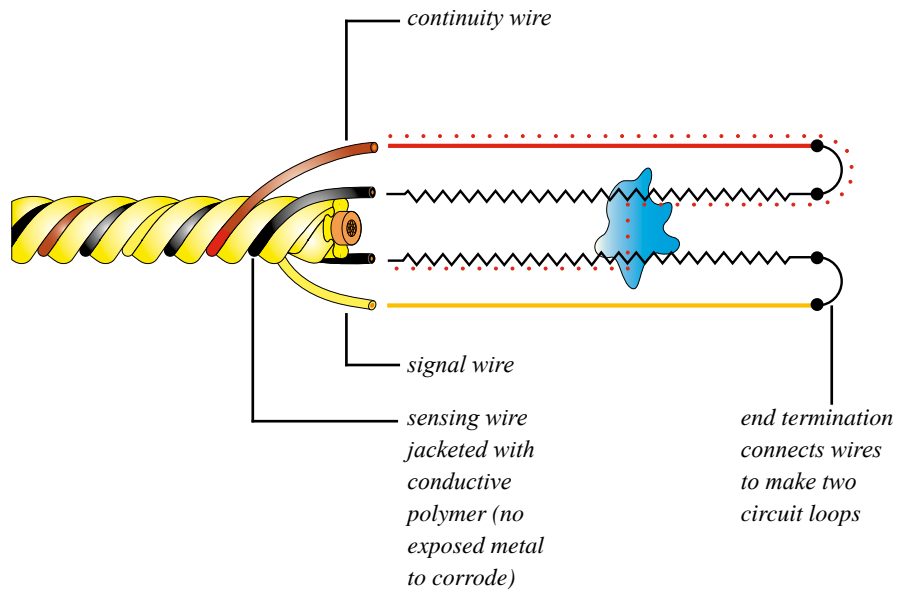
Modular – for ease of design and installation

Standard lengths of TraceTek cable quickly plug together so you don't need special tools to install the system. The modular design also means that you can easily add to the system in the future.

Flexible – with a choice of systems and interfaces to meet your needs

There's a TraceTek system to meet your needs, whether you're looking for a simple detection system (for a small, isolated area) or for a complex, multi-branched locating system. All TraceTek modules have relays to signal detection of an alarm condition (for example, to a building management system). Our locating system also displays the distance to the leak.

Our microprocessor-based alarm and locating module continues to monitor after a leak and rearmers if any major change occurs. It keeps a log of events and has built-in system-wide diagnostic functions. In addition to alarm relays, its interfaces include a 4 - 20 mA current transmitter and an RS-232/RS-485 communications port.





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